

Committee Workshop on Transportation Energy Demand Forecasts and Options to Reduce Petroleum Fuel Use

Alternative Fuels Commercialization

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Goals for Non-Petroleum Fuels

- By 2020, **20** percent of transportation energy demand to be met by non-petroleum fuels.
- Current displacement – **6 percent**
- Should displace about **4.0-4.2** billion gallons of gasoline and diesel.



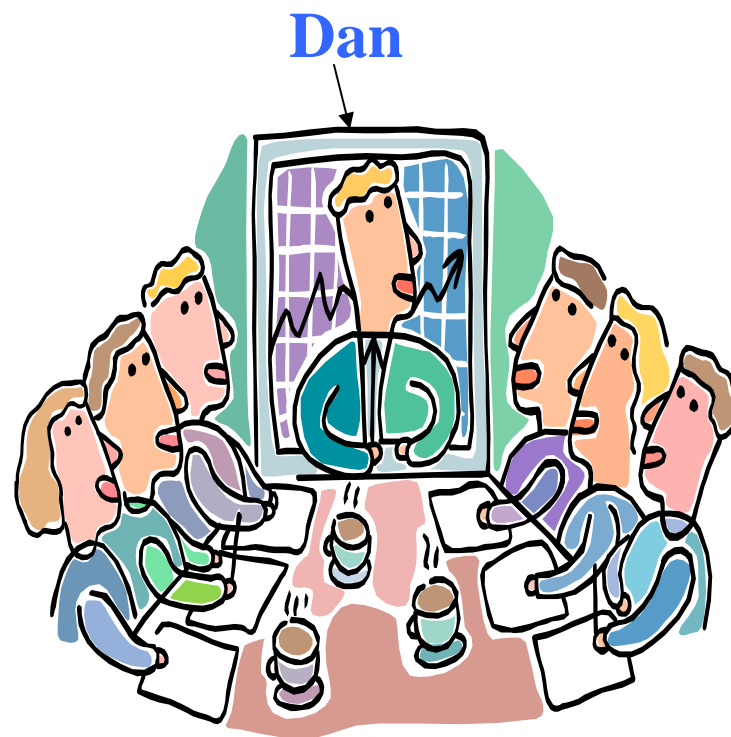
California – Tops in Non-Petroleum Fuels

State	Liquefied Petroleum Gas	Natural Gas	Methanol	Ethanol	Electricity	TOTAL
California ^a	21,537	24,990	4,787	9,517	10,670	71,501
Texas	39,279	9,961	162	6,706	82	56,190
New York	6,213	13,100	88	3,723	9,299	32,423
Oklahoma	17,839	3,322	0	1,122	0	22,283
Florida	4,171	4,152	6	7,856	357	16,542
Georgia	4,418	4,484	39	2,076	4,550	15,567
Illinois	5,259	3,120	17	6,916	89	15,401
Michigan	4,822	991	48	4,840	1,606	12,307
Colorado	5,611	2,694	3	3,491	126	11,925
Arizona	1,082	7,243	201	1,583	1,662	11,771



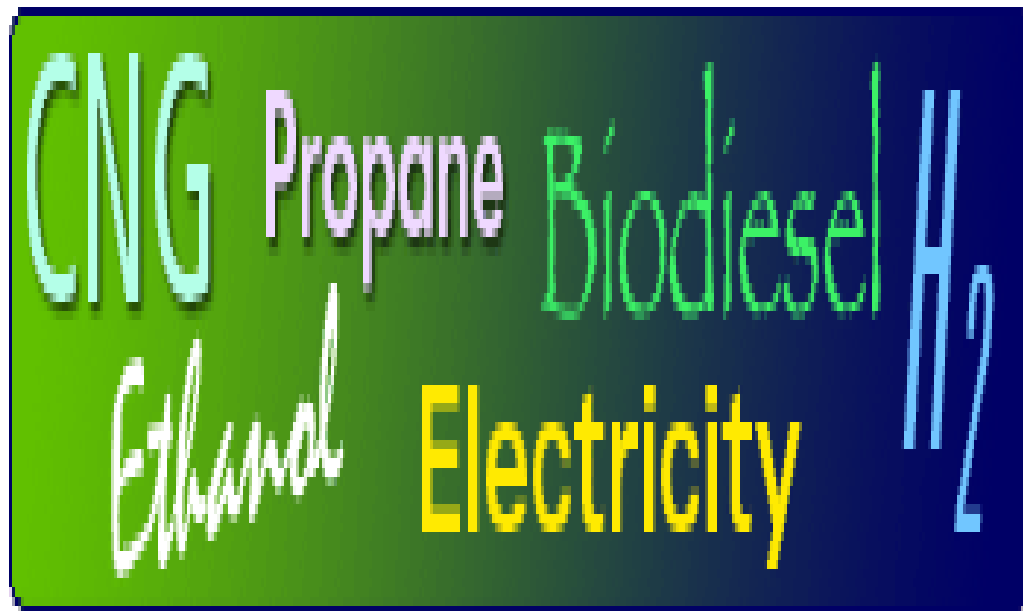
Stakeholder Meetings

- Asked stakeholders for recommendations to promote alternative fuels.
- Asked stakeholders to project potential fuel market for their alternative fuel.



Alternative Fuels

- Biodiesel
- Electricity
- Ethanol
- Gas to liquids
- Hydrogen
- Liquefied Petroleum Gas
- Natural Gas



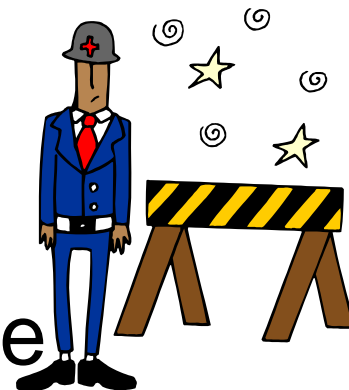
Stakeholder Projections

(millions of gallons)

Alternative Fuel	Petroleum Displacement
Biodiesel	80
E85	1,000
Electricity	915
Ethanol in diesel blends	12
Ethanol in RFG	890
GTL	400
Hydrogen	13
LPG	300
Natural Gas	1,700
TOTAL	5,310
Goal for 2020	4,800



Barriers



- Petroleum fuels – a formidable competitor
- Lack of clear and consistent policies
- Manufacturer acceptance of fuel or fuel blends
- Certification procedures
- Technology development
- Infrastructure development



Questions



- Will E10 be acceptable to California?
- Will diesel demand be high enough to attract GTL suppliers?
- Will hydrogen technology breakthroughs occur to commercialize the fuel?



More Questions

- With the growing population of FFVs, will suppliers of E85 take advantage of this ready made market?
- Will other light-duty alternative fuel vehicles become extinct?



Stakeholder Recommendations

- Adopt clear policies for petroleum reduction
- Facilitate resolutions to regulatory barriers with other agencies
- Develop an incentive program for alternative fuels



More Stakeholder Recommendations

- Government fleets as early adopters
- Incentives for infrastructure development
- Technology development



Conclusion

- Difficult in meeting 2020 goals because of formidable barriers.
- Need to implement stakeholder recommendations

